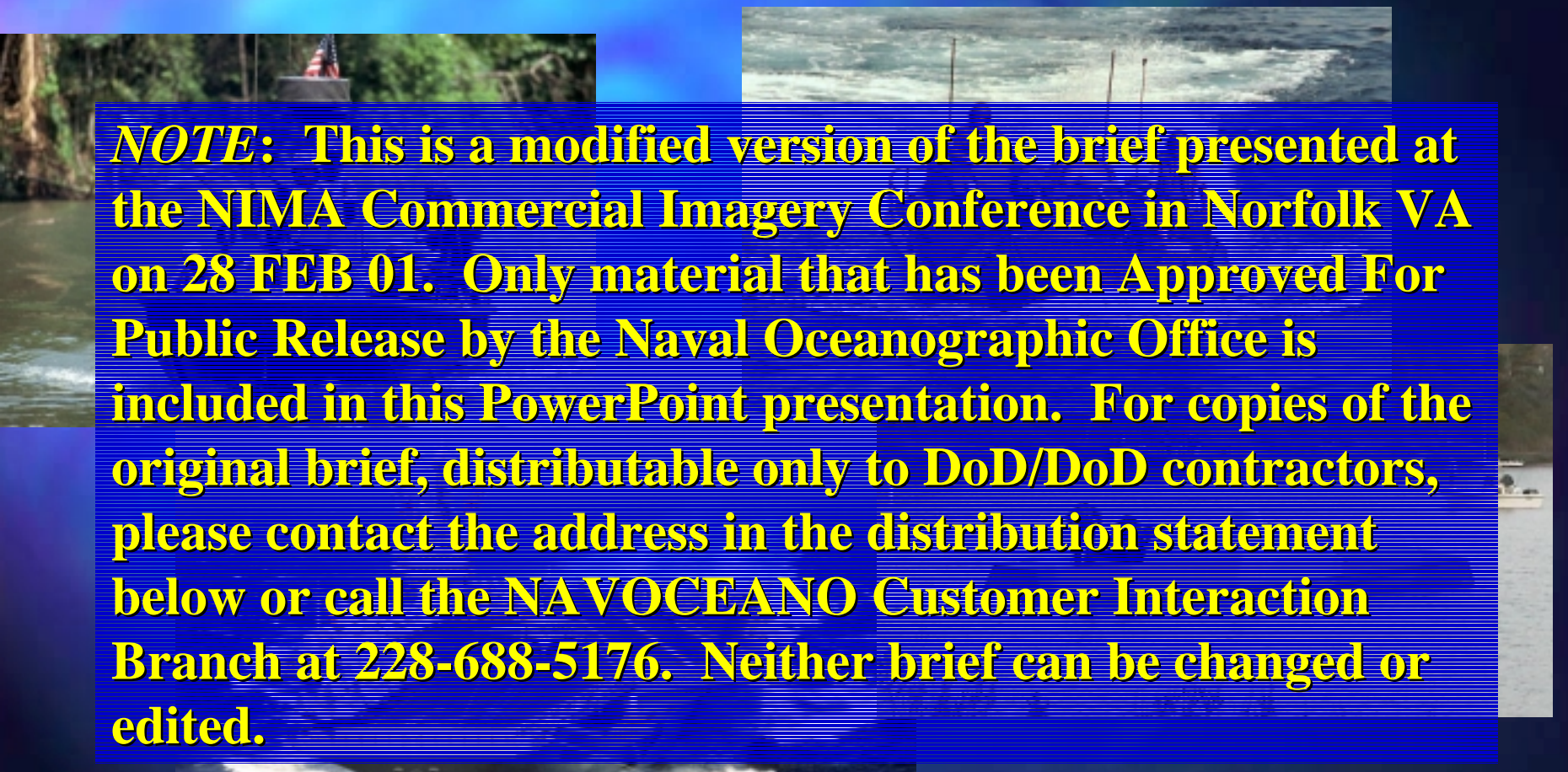


Naval Oceanographic Office Warfighting Support Center

The background of the slide features several small, rectangular images showing naval operations, including ships at sea and a coastal scene with a flag.

NOTE: This is a modified version of the brief presented at the NIMA Commercial Imagery Conference in Norfolk VA on 28 FEB 01. Only material that has been Approved For Public Release by the Naval Oceanographic Office is included in this PowerPoint presentation. For copies of the original brief, distributable only to DoD/DoD contractors, please contact the address in the distribution statement below or call the NAVOCEANO Customer Interaction Branch at 228-688-5176. Neither brief can be changed or edited.

Distribution Statement: Distribution approved for DoD/DoD contractors only. All other requests must be approved by the Commanding Officer, Naval Oceanographic Office, Stennis Space Center MS 39522

This briefing is
UNCLASSIFIED

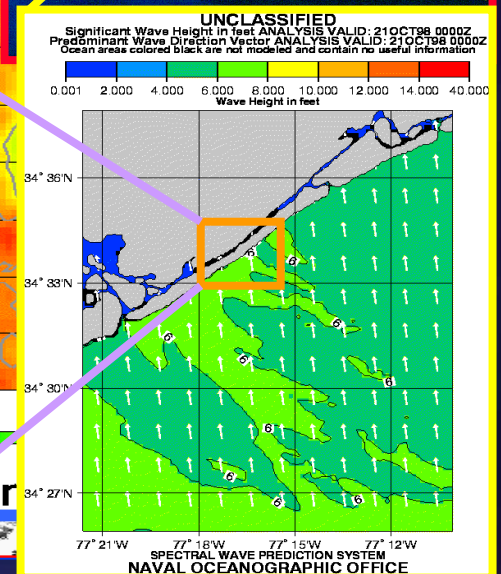
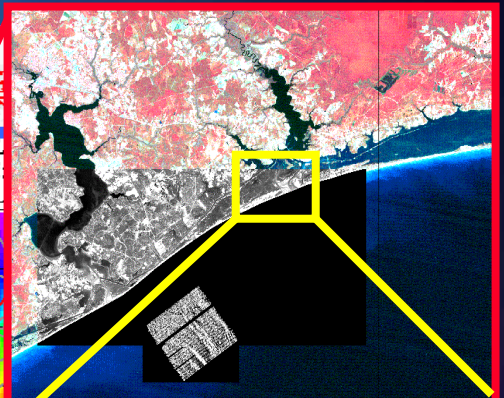
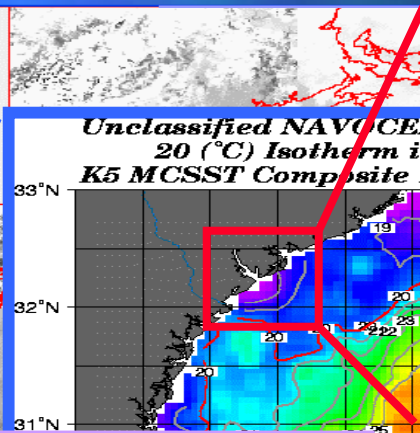
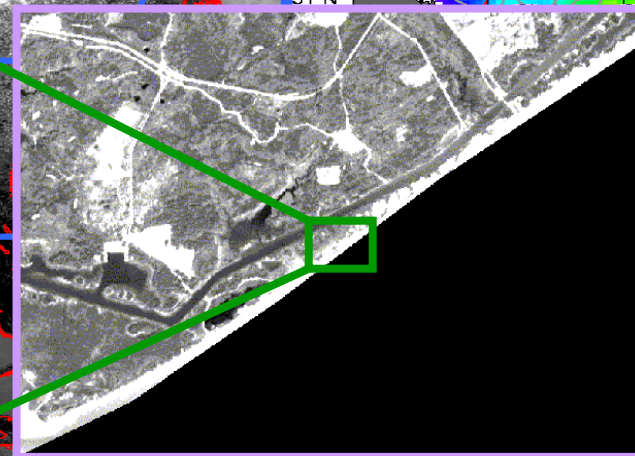
Our Mission



Provide specialized near real-time oceanographic products and services to characterize the oceanographic battlespace in the littoral environment

NAVAL OCEANOGRAPHIC OFFICE

...tell the *warfighter*
what the oceanographic
environment is like...
at the *beach scale*



SCOPE OF THE LITTORAL ENVIRONMENT

- 356,000 Kilometers of Coastlines in the World
- 26,000 + Tourist Beaches
- 2,781 Major Ports and Harbors
- 63,130 Minor Ports and Harbors
- 900,000 Rivers in the World
- 224 Major River Basins
- 50 + Major Rivers over 1000 nmi long
- 298 Major Rivers over 500 nmi long
- 465,100 nmi of Commercial Inland Waterways - USA (Major Systems)
- 900,000 Dams
 - 40,000 Major/Large Dams



LESSONS OF HISTORY

TARAWA, AMPH OPS, 1943	1500 KIA, 1000 LOST IN WATERS	CURRENTS/TIDES/HIGH SURF/ OBSTACLES/HEAVY SEAS
IWO JIMA RECON, 1944	MIAS, SUB LOST	BIOLUMINESCENCE
WONSON, AMPH OPS, 1950s	DELAY OF OPS	TIDES/OBSTACLES/CURRENTS
VIETNAM, RECON, 1967	EXPOSED MISSION	CROC ATTACK/20 FT BREAKERS
FLORIDA, SWIMMERS, 1970s	14 HOSPITALIZED	BLUEFISH ATTACK
GRENADA, SOF OPS, 1983	5 KIA, DELAYED OPS	10-12' SWELLS STRONG CURRENTS
HAITI, SOF OPS, 1994	USN VESSEL GROUNDED	OBSTACLES
EGLIN AFB, SOF OPS, 1996	2 KIA, 4 HOSPITALIZED	WATER TEMP
RHINE RIVER, 1998	TANKER EXPLOSION DUE TO COLLISION	HEAVY FOG
TURKEY, 1999	HUMANITARIAN SUPPORT	EARTHQUAKE/ FLOODING
RUSSIA, 2000	SEARCH AND RESCUE SUB SANK	SHARP THERMOCLINE



Kosovo Support



15 March - 6 June 1999

Total Images produced: 31

Total ESP's produced: 6

Total Tide Plots produced: 10

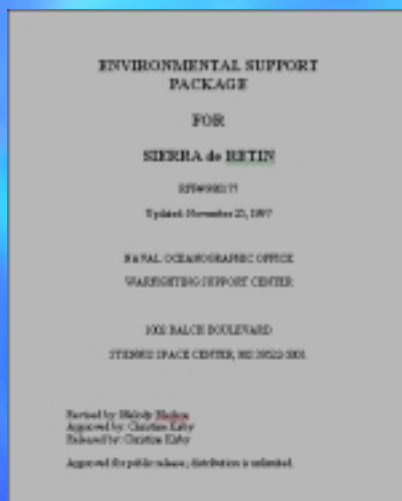
SAIL/STOIC: 6-10

Crisis Action Team was formed

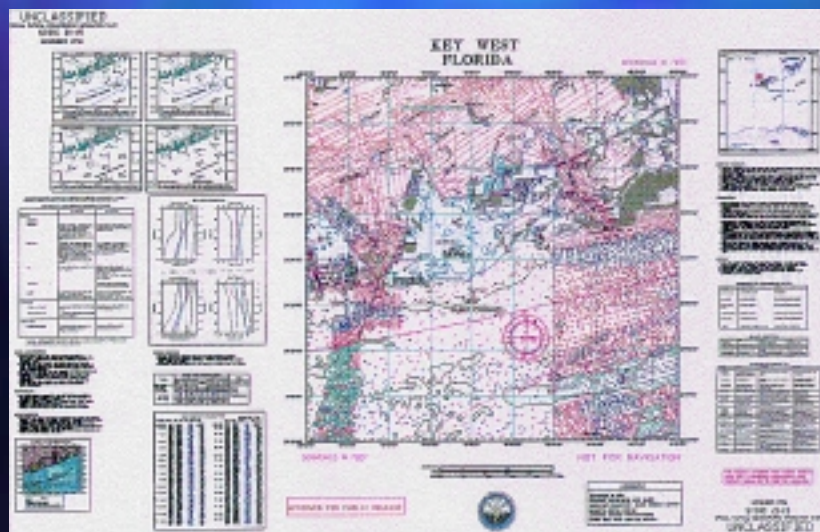
1. Beaches of Montenegro...interested in 4 beach analyses after receiving other NAVO/WSC products.
2. Lake Scutari & Buene River...Move logistics upriver and across lake due to bad road conditions.
Impact...NAVO product indicated migrating sandbars in river, buildup at mouth, and conditions around lake (swamp-N) (rocky-S).
3. Danube River...Products showed submerged islands, river currents, submerged hazards, gorges, and other features not shown on charts.
4. Boka Kotorska...Products showed current directions at entrance.
Impact...Mine drift, buoy insertion, model outputs.

UNIQUE PRODUCT LINE

EXECUTIVE SUMMARY/ ENVIRONMENTAL SUPPORT PACKAGE



STOIC



ANALYZED IMAGERY



SAIL



Defense supercomputer models all oceans at once

Navy will also use it to make materials science, fluid dynamics and other research calculations

By PATRICIA DALAKANTAS
GOC Staff

The Defense Department's newest and fastest research supercomputer is starting to produce high-resolution simulations of vast bodies of water and tiny particles of matter.

The 1,336-processor IBM RS/6000 SP system at the Naval Oceanographic Office at Stennis Space Center, Miss., will predict details of ocean currents, wave heights and water temperatures around the globe. It also will simulate properties of materials at the atomic and molecular levels.

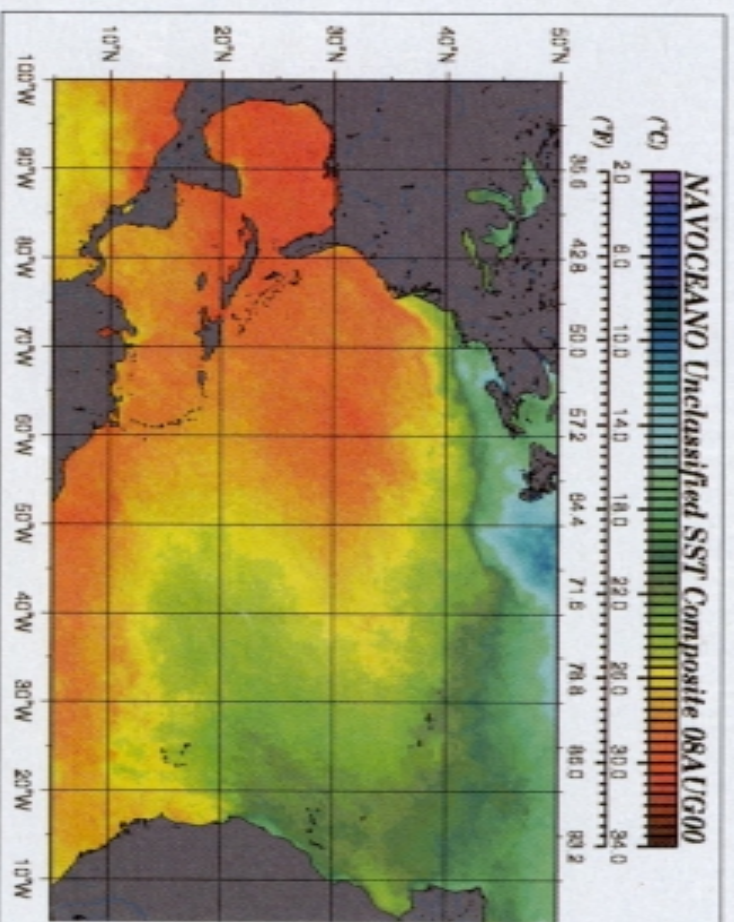
The Navy took delivery of the supercomputer, which has a theoretical peak output of 2 trillion floating-point operations per second, at the end of June.

"We're very pleased with the progress we're making," said Steve Adamiec, director of NAVOCEANO's Major Shared Resource Center, one of four large supercomputing facilities in DOD's High-Performance Computing Modernization Program.

After the first round of acceptance tests, the center has made the supercomputer available to some users, Adamiec said. Full production capability is expected by the end of the summer.

Copper connects

To boost electrical conductivity, the supercomputer's IBM Power3-II microprocessors have copper instead of aluminum connec-



tions between transistors. Each of the 334 Winterhawk-II symmetric multiprocessing nodes has four processors and 4G of RAM, for a total of 1.3T of RAM.

The system also has 17T of short-term IBM disk storage for manipulating the huge data sets that cutting-edge scientific computations produce.

The most recent list of the world's fastest computers [GOCN, June 12, Page 61] ranks the Navy's RS/6000 fourth. The list, however, came out a few weeks before the announce-

ment of what is believed to be the world's fastest machine, a 12.3-TFLOPS IBM RS/6000 at Lawrence Livermore National Laboratory in Livermore, Calif. [GOCN, July 3, Page 1].

"If the list were recast today, this system might be No. 5," Adamiec said of the NAVOCEANO supercomputer.

As the prime systems integrator for the Navy center, Logicon Inc. of Herndon, Va., solicited proposals for a high-performance system last year, and IBM won the contract,

The Naval Oceanographic Office updates its Atlantic model daily to show temperatures in areas prone to cyclone formation.

Adamiec said. He declined to give the cost of the supercomputer.

Its primary task, Adamiec said, is to create detailed simulations of all the world's oceans simultaneously—and at higher resolutions than can be accomplished on other NAVOCEANO computers. DOD researchers want to reduce the simulations' grid sizes, or distances between data points, from tens of kilometers to a few kilometers.

Grid crunching

Finer grid sizes require huge increases in computing power, Adamiec said. Doubling the resolution of a 3-D simulation raises the number of calculations eightfold.


The DOD center will use the unclassified supercomputer to work on materials science, fluid dynamics and other research problems of interest to the armed forces. For example, studies of how atoms and molecules interact could lead to developing new materials for aircraft, weapons and armor.

The RS/6000 can handle simulations of 5 billion to 10 billion atoms at once, up from 10 million to 100 million atoms, Adamiec said.

"The gratifying part is to see the really substantive improvements in science that are resulting from these machines being available," Adamiec said. ■

METOC Virtual Library 3.0

MVL Geographic Interface - Microsoft Internet Explorer



Mediterranean Central Med
Mediterranean Eastern Med
Mediterranean Regional MED
Mediterranean Western Med

Regions selected: 6 of 78




Astronomical Summary
Imagery Meteosat
MCSST Daily Observations
MCSST K10 Composite

Product Types selected: 16 of 16




USEUCOM
Current as of Wed Mar 8 21:07:10 2000
NOTE: Posted Dates on Imagery are Source Dates.
For Future Use, Click [HERE](#) Then Bookmark.

Search For

Adriatic Sea
MCSST
K10

☐ ADRIATIC SST [\[More Info\]](#)   




Meteorology
Observation

☐ ADRIATIC OBSERVATIONS TEXT [\[More Info\]](#)   




Models

SWAPS




☐ SERIES


☐ LOOP [\[More Info\]](#)   

☐ SWELL WAVE SERIES

☐ LOOP [\[More Info\]](#)   

☐ WIND WAVE SERIES

☐ LOOP [\[More Info\]](#)   



Environmental Support Package



UNCLASSIFIED

(This document is UNCLASSIFIED in its entirety.)

ENVIRONMENTAL SUPPORT PACKAGE

FOR

SIERRA de RETIN

RFP# 980177

Updated: November 25, 1997

**NAVAL OCEANOGRAPHIC OFFICE
WARFIGHTING SUPPORT CENTER
1002 BALCH BOULEVARD
STENNIS SPACE CENTER, MS 39522-5001**

Revised by: Melody Bledsoe
Approved by: Christine Kirby
Released by: Christine Kirby

Approved for public release; distribution is unlimited.

TABLE OF CONTENTS

INTRODUCTION

CURRENTS

TIDES

WATER PROPERTIES

WAVES

OCEAN FRONTS

TOPOGRAPHY

RIVERINE ENVIRONMENTS

NAVIGATION

Approaches to Beaches/Harbors

Hazards

Ports

Anchorage

Fishing Activity

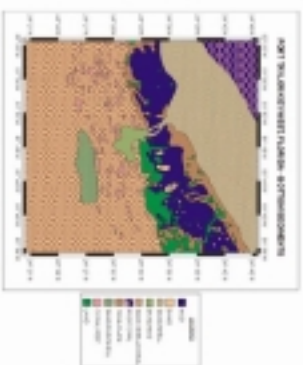
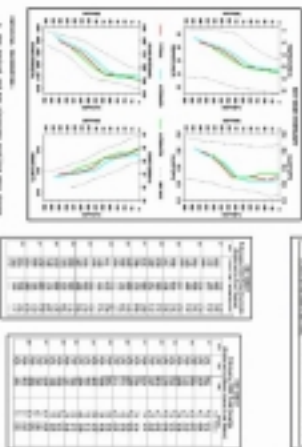
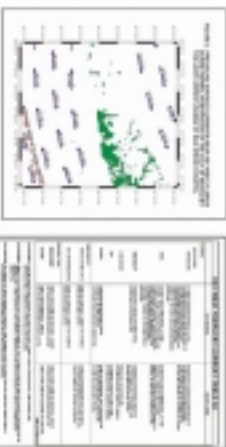
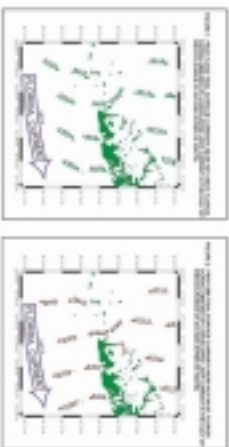
CLIMATOLOGY

BIOLOGY

POLLUTION

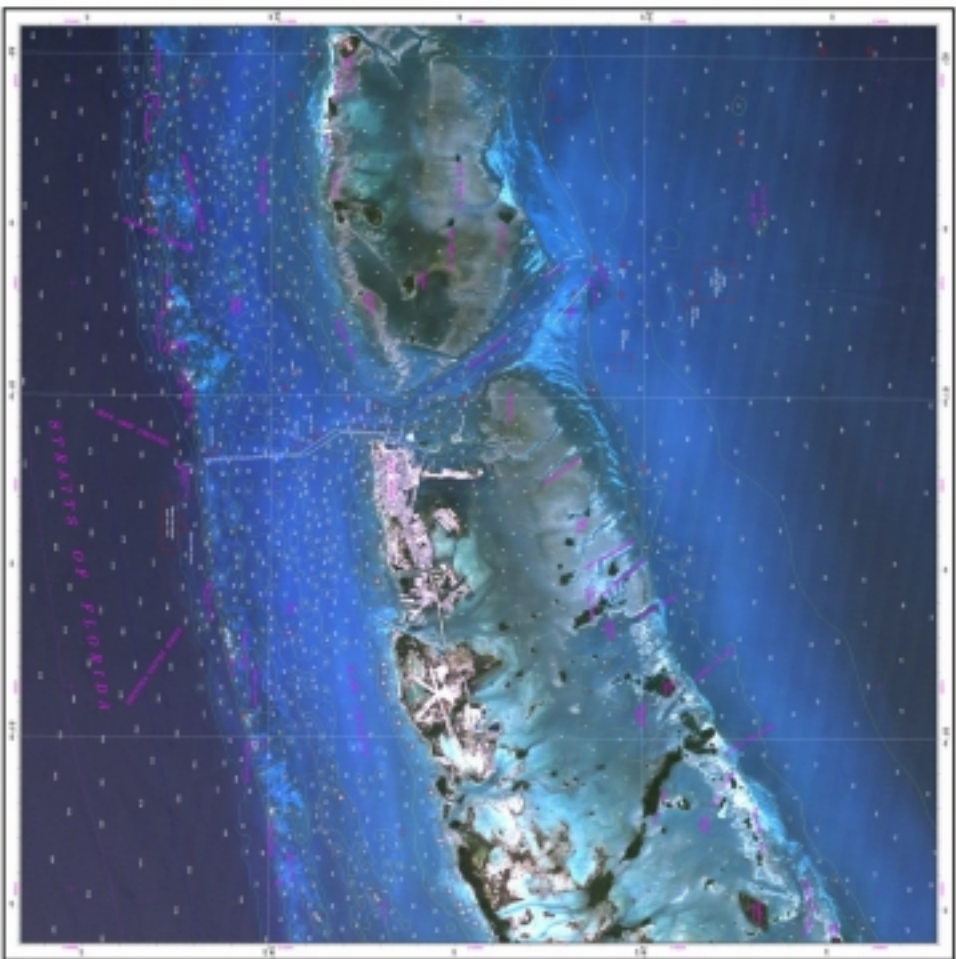
IMAGERY

REFERENCES



Florida Department of Environmental Protection
Bureau of Marine Research
3500 North US Highway 1
Tallahassee, FL 32310
Phone: 904.407.1234
Fax: 904.407.1235
Email: marine@fldep.com

Approved by State of Florida



NOT FOR NAVIGATION

This map is not to be used for navigation. It is intended for informational purposes only.

STUDY AREA LOCATION
The study area is located in the Florida Keys, specifically in the area of Key West. The study area is located in the Florida Keys, specifically in the area of Key West. The study area is located in the Florida Keys, specifically in the area of Key West.



Vegetation Type	Area (sq. ft.)	Area (sq. mi.)
Coconut Palm	1,234,567	0.028
Swamp Palm	987,654	0.022
Bay Palm	765,432	0.017
Sea Palm	543,210	0.012
Other	321,098	0.007

STUDY AREA LOCATION
The study area is located in the Florida Keys, specifically in the area of Key West. The study area is located in the Florida Keys, specifically in the area of Key West. The study area is located in the Florida Keys, specifically in the area of Key West.

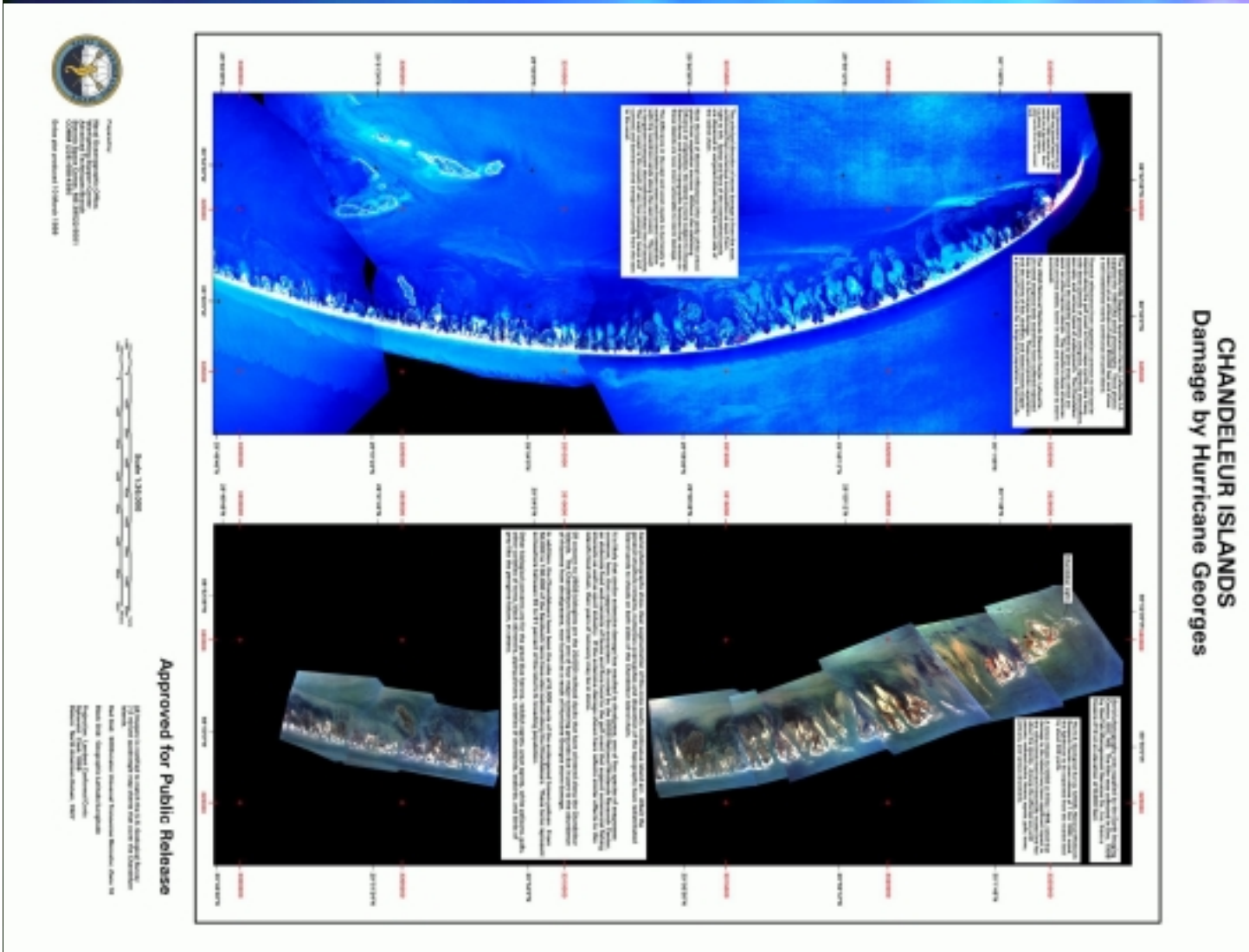
STUDY AREA LOCATION
The study area is located in the Florida Keys, specifically in the area of Key West. The study area is located in the Florida Keys, specifically in the area of Key West. The study area is located in the Florida Keys, specifically in the area of Key West.

Vegetation Type	Area (sq. ft.)	Area (sq. mi.)
Coconut Palm	1,234,567	0.028
Swamp Palm	987,654	0.022
Bay Palm	765,432	0.017
Sea Palm	543,210	0.012
Other	321,098	0.007



STUDY AREA LOCATION
The study area is located in the Florida Keys, specifically in the area of Key West. The study area is located in the Florida Keys, specifically in the area of Key West. The study area is located in the Florida Keys, specifically in the area of Key West.

Approved by State of Florida



© 2004 Blackwell Publishing Ltd, *Journal of Internal Medicine* 255: 103–110
 ISSN 0954-6820
 DOI: 10.1111/j.1365-2796.2004.01391.x
 Accepted for publication 12 May 2004
 Correspondence: Dr J. A. Koster, Department of Internal Medicine, University Hospital Groningen, P.O. Box 30.001, 3000 RB Groningen, The Netherlands (e-mail: j.a.koster@azg.umcg.nl).



Table 1.24.2001

Product ID# 2000024



Published By:
 West Coast Communications, John
 Paulsen, Managing Director
 10000 Wilshire Blvd., Suite
 1000, Beverly Hills, CA 90210
 Tel: 310.277.1000 Fax: 310.277.1004
 E-mail: westcoast@westcoast.com
 Website: www.westcoast.com



Consent form 111000, Space People is
limited to maximum five days.

UNCLASSIFIED

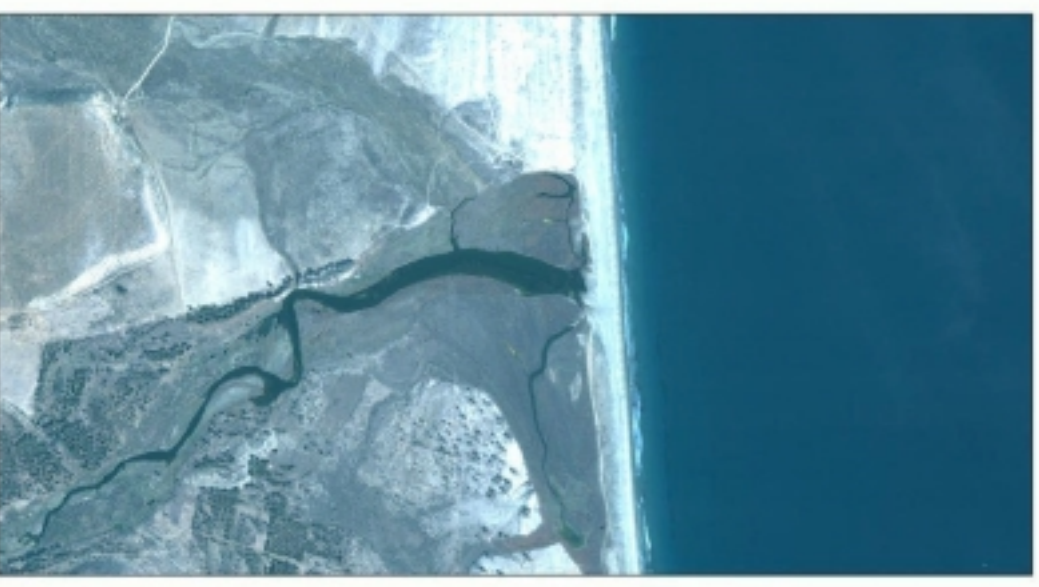
IKONOS Merge Example



IKONOS Panchromatic
1 meter



IKONOS Multispectral
4 meter



IKONOS Panchromatic/Multispectral
Resolution Merge

Contains data (c) 2000
Space Imaging LP

Scale of Images are 1:50000

UNCLASSIFIED

Pearl Harbor, Territory of Hawaii *06 November 1941* *Prelude to Infamy*



① USS Arizona BB-39 • Battleship Division I flagship. Forward magazine exploded 16 minutes into attack; 1177 officers and men killed.



② USS Oklahoma BB-37 • Battleship Division I. Sustained 3 torpedo hits and rolled over; 20 officers and 300 enlisted were killed - 32 men rescued after attack by cutting through bottom of capsized hull.



③ USS Enterprise CV-6 • In port Pearl Harbor following delivery of USMC aircraft to Wake and Midway Islands. Sailed from Pearl Harbor on another aircraft ferry mission 28 Nov 1941.



④ Examples of Catalinas typically stationed on Ford Island



Aerial Imagery Provided by:
 Joint Intelligence Center Pacific



Produced by:
 Naval Oceanographic Office
 3900 Balch Road
 Alameda, CA 94536-5000



⑤ USS Shaw • In floating dry dock; magazine exploded.



⑥ USS Cassin, USS Downes • In dry dock with USS Pennsylvania; Cassin magazine exploded, rolling over onto Downes.

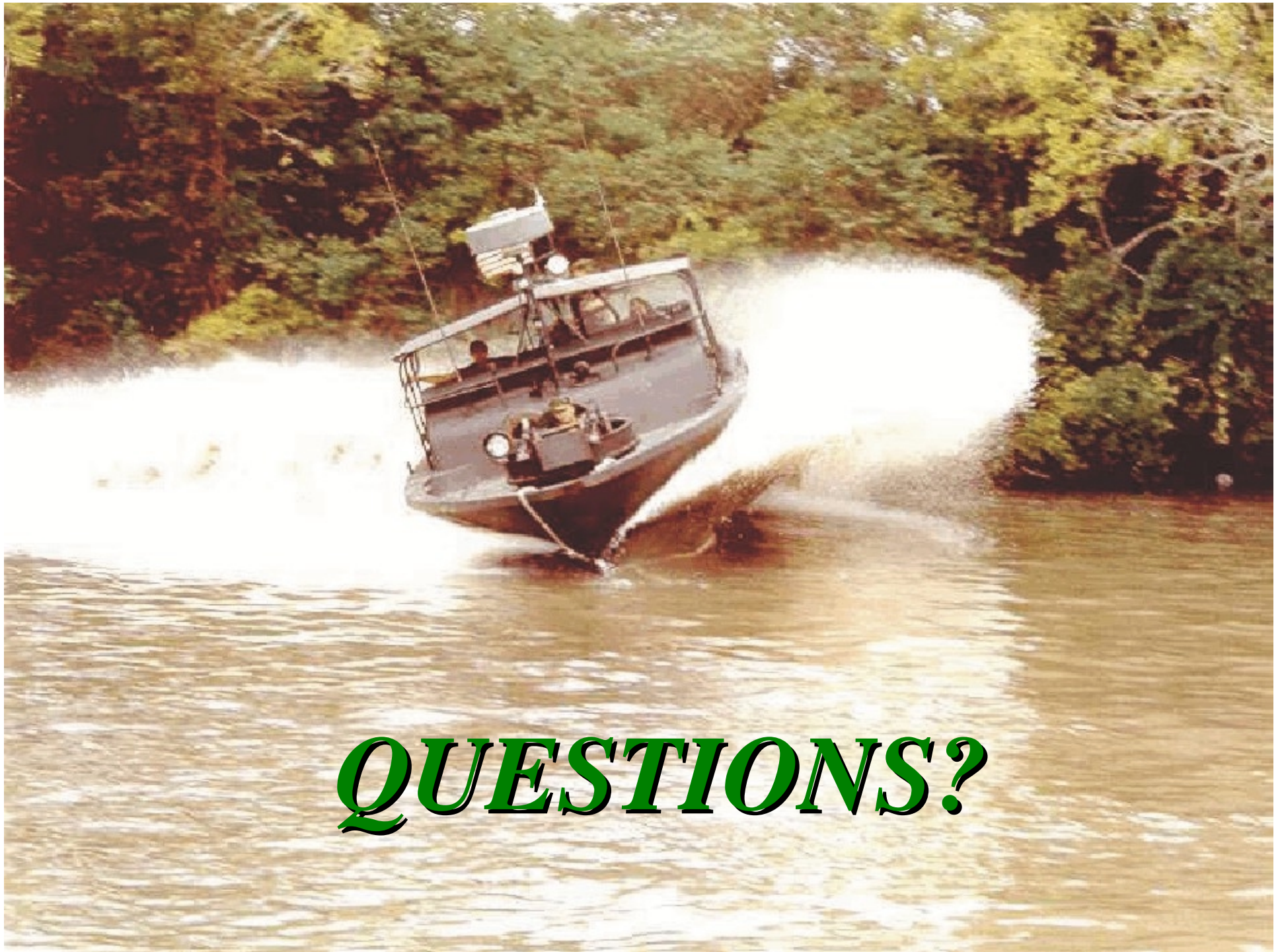


⑦ USS Pennsylvania BB-38 • Pacific Fleet flagship. In dry dock; sustained only minor damage during attack.



⑧ Various Cruisers • USS Honolulu, USS New Orleans, USS St. Louis.





QUESTIONS?